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MINISTRY OF COMMERCE



REPORT OF THE
INDIAN TARIFF BOARD

ON THE
BOBBINS INDUSTRY

BOMBAY

1948

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REPORT ON THE BOBBINS INDUSTRY.

An application for protection to the bobbins industry was made to the late Department of Commerce, Government of India, by the All-India Bobbin Manufacturers' Association, Bombay on 7th December 1945. This was followed up by another letter from the same Association on 7th January 1946. Application for protection and reference to the Board.

The claim of the industry for protection was also supported by the Technological Institute of Textiles, Bhiwani, in its letter dated 20th December 1945, addressed to the late Department of Commerce, Government of India. Besides, in reply to the questionnaire issued by the late Commerce Department, preliminary information regarding the industry was furnished by (i) Hindusthan Bobbins and Spools Manufacturing Co., Navsari (13th September 1946), (ii) Technological Institute of Textiles, Bhiwani (20th November 1946), (iii) Hind Bobbin Works, Bulsar (11th December 1946), (iv) All-Bengal Bobbin Manufacturers' Association (now All-India Jute Mill Bobbin Manufacturers' Association) Calcutta (23rd January 1947) and (v) Patel Bobbins and Engineering Works, Bombay (5th February 1947). The case of the bobbins industry for protection or assistance was referred to the Tariff Board for investigation by the Government of India (in the late Department of Commerce), in their resolution No. 218-T(43)47 dated 26th April 1947 (Appendix I), read with paragraphs 2, 5 and 7 of the Government Resolution of the same number dated 3rd November 1945, and paragraph 4 of the Resolution bearing the same number dated 16th February 1946.

2. Under the terms of reference contained in paragraph 5 of the Terms of reference. Government of India Resolution dated 3rd November 1945 the Board has to satisfy itself—

- (i) that the industry is established and conducted on sound business lines;
- (ii) (a) that, having regard to the natural or economic advantages enjoyed by the industry and its actual or probable costs, it is likely within a reasonable time to develop sufficiently to be able to carry on successfully without protection or State assistance; or
- (b) that it is an industry to which it is desirable in the national interest to grant protection or assistance and that the probable cost of such protection or assistance to the community is not excessive.

Where a claim for protection or assistance is found to be established, that is, if condition (i) and condition (ii) (a) or (b) are satisfied the Board may recommend—

- (i) whether, at what rate and in respect of what articles, or class or description of articles, a protective duty should be imposed;
- (ii) what additional or alternative measures should be taken to protect or assist the industry; and

(iii) for what period, not exceeding three years, the tariff or other measures recommended should remain in force. In making its recommendations the Board has to give due weight to the interests of the consumer in the light of the prevailing conditions and also consider how the recommendations affect industries using the articles in respect of which protection is to be granted.

3. On 6th May 1947, the Board issued a press communiqué inviting firms, associations and persons interested in this

Method of Inquiry. industry either as producers or importers or consumers, who wished their views to be con-

sidered, to submit their representations. The Board also invited all Provincial Governments and Chambers of Commerce to communicate their views on the protection of the industry. Detailed questionnaire was issued to known producers, importers, consumers and associations, as per list given in Appendix II. The President, Members and Officers of the Board visited 12 factories in different parts of the country, as per details given in Appendix III. The public inquiry which was originally proposed to be held some time in August 1947 had to be postponed due to changes in the personnel of the Board. Soon after the reconstitution of the Board in November 1947, Government asked the Board to investigate into, and report on, fair ex-mill prices of cotton yarn and cloth and the Board was fully occupied with this inquiry as well as with a number of tariff investigations till the end of June. This led to the postponement of the public inquiry in connection with the bobbins case until July 1948. A public inquiry was held at Bombay on 13th and 14th July 1948, when oral evidence of the representatives of the producers, consumers and importers of bobbins was taken. The list of persons who attended the inquiry and gave evidence is given in Appendix IV.

4. (a) *Jute mill bobbins.*—Jute mill bobbins were manufactured in Calcutta by a few small factories during the first

History of the industry. World War when imports of bobbins from the U.K. were totally stopped. But when the war

was over, jute mill bobbins began to be imported again in large quantities, and this led to the collapse of the indigenous bobbins industry. With the outbreak of World War II, there was again a heavy reduction in the imports of bobbins from the U.K. and the jute mills approached a few enterprising manufacturers to start production of bobbins in the country and offered to purchase the entire output. Further, the Department of Industries, Government of Bengal, at the request of the Indian Jute Mills Association, encouraged the development of the indigenous bobbins industry and assisted it by giving technical advice. The All-India Jute Mill Bobbin Manufacturers' Association, Calcutta, has stated that there are 21 jute mill bobbin factories in Calcutta with a capacity of about 73,500 gross of bobbins per annum. According to figures supplied by the Directorate General of Industries and Supplies, Government of India, the maximum production was achieved in the year 1946-47, when the total output was 13,500 gross of roving bobbins and 26,400 gross of spinning bobbins, making a total of 39,900 gross of bobbins. Recently, another factory has been established in Bangalore with a capacity of about 2,500 gross of jute mill bobbins per annum. This factory is expected to start production of jute mill bobbins by the end of the current year.

The Board also received the names and addresses of about 20 more factories in the Calcutta area and one factory in Bombay, but details regarding their capacity and actual production were not available. We were also informed that Orissa and Madras have one factory each for the manufacture of jute mill bobbins, but particulars regarding their capacity and actual production were not furnished to us. A list of 23 known factories is given in Appendix V.

(b) *Cotton mill bobbins.*—As regards cotton mill bobbins, their manufacture was undertaken for the first time during World War II, when the cessation of imports from the U.K. and other countries gave a stimulus to the development of the industry. This industry is mainly concentrated in the Bombay Province and Saurashtra, though a few factories exist in North, Central and South India. The total number of factories is stated to be 112. Details regarding capacity and actual production were obtained in respect of 47 of these factories. According to information furnished by the Directorate General of Industries and Supplies, the total capacity of these 47 factories is about 415,000 gross and their actual production in the last few years was as follows :—

1943	138,804	gross.
1944	179,150	gross.
1945	217,280	gross.
1946	200,279	gross.
1947	282,648	gross.

A list of these 47 factories with their capacity will be found in Appendix VI.

5. Since most of the bobbin factories in the country sprang up during wartime, they have been using improvised machinery. Many of them are not equipped

Machinery and tools. with a modern kiln for seasoning the timber, which is important in the manufacture of quality bobbins. The representatives of the jute and cotton mills stated before us that indigenous bobbins were defective in many respects and hence inferior to imported bobbins. In the course of discussion at the public inquiry, it was found that many of the defects of indigenous bobbins could be remedied by the installation of modern kilns and more up-to-date machinery. While the manufacturers of cotton mill bobbins were trying to improve and modernise their machinery, the manufacturers of jute mill bobbins were rather reluctant to improve the equipment of their factories. The reason given by the jute mill bobbin manufacturers for this reluctance on their part to modernise their mechanical equipment was that they felt a complete lack of assurance about the future of the industry : this was because the jute mills had been recently pursuing an unhelpful policy in the matter of purchase of bobbins. While we appreciate this particular difficulty of the manufacturers of jute mill bobbins, we would urge upon them the necessity of modernising their mechanical equipment and thereby improving the quality of their bobbins. The concessions recently granted by Government by way of reduction of duty on imported machinery from 10 per cent. to 5 per cent. and larger depreciation allowance (at double the existing rate) on new buildings, plant and machinery, should serve as a stimulus to the bobbin manufacturers to install modern plant and machinery. We recommend that they should take early steps in this direction. We also recommend that Government should give facilities to import such machinery and tools.

6. Bobbins are used in cotton, jute, silk, woollen, hosiery and rayon factories as the vehicle for the movement of yarn. They are used for winding sliver and yarn in a convenient form for movement from one operation to another, as, for example, roving, slubbing, spinning, doubling or pining.

7. (a) *Timber*.—Timber is the basic raw material required for the manufacture of bobbins. For jute mill bobbins, three varieties of indigenous timber, namely, mango, haldu and kalam, have so far been used. It was the considered opinion of the jute mill bobbin manufacturers that these three varieties of indigenous timber were quite suitable for the manufacture of jute mill bobbins. This view was fully supported by our Technical Advisers, Mr. C. Purkayastha, Development Officer (Timber), Directorate General of Industries and Supplies, Government of India, and Mr. M. A. Rehman, Wood Seasoning Officer, Forest Research Institute, Dehra Dun. As regards cotton mill bobbins, all the factories used indigenous haldu and kalam for manufacturing them during wartime. Since 1946, however, some of the factories have been using imported birch and beech for the purpose. Their representatives informed us that the cotton mills preferred bobbins manufactured from imported birch and beech and that the use of such timber was absolutely essential for the manufacture of bobbins as good as the imported ones. There were a few manufacturers, however, who did not agree with this point of view and who claimed that the bobbins made by them from indigenous haldu, gave complete satisfaction to the cotton mills using such bobbins. They contended that, in most cases where the bobbins made from indigenous timber had proved defective, the defects were not due to the bad quality of the indigenous timber as such but were caused by neglect in handling, preserving and seasoning the timber. It was pointed out by them that in many cases the logs of wood suffered serious deterioration owing to long exposure to sun and rain before being used for manufacturing bobbins. They further stated that many of the bobbin factories did not have a seasoning kiln and proper machinery and tools. Our Technical Advisers, Messrs. Purkayastha and Rehman fully supported the claim that indigenous haldu and kalam were quite suitable for the manufacture of cotton mill bobbins and that, with proper treatment of these timbers and the use of modern manufacturing technique, quality bobbins could be manufactured. As regards the availability of indigenous timber, we were informed that, but for transport difficulty, the manufacturers could generally obtain the requisite supplies of timber. The jute mill bobbin manufacturers of Calcutta, who had been previously getting their timber to some extent from East Bengal, were, however, experiencing some difficulty in obtaining their supply of timber from that area due to the partition of the country. As for the timber required for cotton mill bobbins, we were informed by the Conservator of Forests, Bombay, that his Department was at present supplying over 3,000 tons of haldu a year for the bobbins industry of Bombay, and further, that the supply was capable of being increased up to 5,000 tons a year within a period of 3 years. Besides the supply from Government forests, timber was also procured by many manufacturers from private forests. The insufficiency of transport facility was still, however, an important obstacle. With the gradual improvement of transport facilities, supplies of indigenous haldu

and kalam should become adequate and regular. The representatives of the All-India Bobbin Manufacturers' Association, Bombay, concerned with the production of cotton mill bobbins, however, contended that suitable indigenous timber was not available and claimed that facilities should therefore continue to be given to them to import birch and beech from Canada, Scandinavia and the U.K. On the other hand, these manufacturers who have been making efforts to make quality bobbins by properly treating and seasoning indigenous haldu, pointed out that so long as such facilities were given for the importation and use of foreign timber, the existing prejudice against bobbins manufactured from indigenous timber would continue and retard the use of Indian timber. The Conservator of Forests, Bombay, also expressed the opinion that the use of indigenous timber should be encouraged as far as practicable and that imports of foreign timber should be permitted only to the extent necessary to supplement the supply of indigenous timber. There can be no doubt that, if the bobbins industry is to have a stable foundation, it should use indigenous timber as far as possible. Besides haldu, kalam and mango, which is widely used for the manufacture of bobbins, kanju is also used by several factories in North Gujarat and silver aloe in Bangalore. The Dehra Dun Forest Research Institute informed the Board that certain other varieties of indigenous timber, namely, baurang, white cedar, rosewood, walnut, maple, birch, alder, bahera, and champ might also be tested for their suitability for the purpose. In this connection, Mr. Rehman informed us at the public inquiry that the Forest Research Institute had requested three cotton mills to test out bobbins made from indigenous timber but that none of the mill agreed to do so. We endorse the view of the Forest Research Institute that tests on an adequate scale in the mills are needed to establish the suitability of these timbers for the manufacture of bobbins. We recommend that Government should arrange to have adequate tests carried out regarding the suitability of different kinds of timber for the manufacture of bobbins and secure the co-operation of textile mills for this purpose. We also recommend that the present facilities for the supply of haldu, kalam and mango to the bobbin manufacturers should be enlarged. We further recommend that so long as import restrictions on timber continue for balance of payment considerations, imports of foreign timber for the manufacture of bobbins should be permitted only to the extent necessary to supplement the supply of indigenous timber and that all applications for permits to import timber for this purpose should be scrutinised before such permits are issued.

(b) *Plates and sheets*.—Terneplate, tinplate, copper sheet or brass sheet is required in small quantities for making shields for cotton mill bobbins. Tinplate of 26 or 34 swg. is available in the country, but the bobbin manufacturers stated that they required tinplate of 30 swg. Terneplate is imported from the U.S.A., and some of the bobbin manufacturers prefer terneplate to tinplate. We were informed that the best material for making bobbin shields is copper sheet or brass sheet but that this is not available in adequate quantity in the country.

(c) *Enamel and varnishes*—are also required for cotton mill bobbins. The bobbin manufacturers were divided in their opinion as to the availability of enamel and lacquer varnishes of the right quality in

the country. Our impression, however, was that the manufacturers did not experience any great difficulty in obtaining these materials within the country.

(d) Linseed oil, spindle oil or similar other oil required for jute mill bobbins is available in the country.

8. (a) *Cotton mill bobbins.*—First of all, the logs of wood are cut into planks. The cut pieces are then seasoned **Process of manufacture.** in the open air or in a kiln. The seasoned pieces are cut to the required lengths and bored and turned in boring machines and wood-turning lathes. These rough-turned bobbins are sand-papered and polished. After this operation, the bobbins go to the shielding department where the shields are made from tinplate, terneplate, copper sheet or brass sheet in press machines with the help of dies and punches. These shields are pressed and hooped to the bobbins in Rollar machines. Thereafter, they are enamelled or varnished according to the trade requirement. The bobbins are finally checked and tested for accuracy before despatch.

(b) *Jute mill bobbins.*—The manufacture of jute mill bobbins is simpler than that of cotton mill bobbins. After being manufactured, they are immersed for some time in linseed or similar oil. No enamelling, varnishing or shielding is required in the case of jute mill bobbins. Mr. Rehman of the Forest Research Institute informed us that a new technique of manufacture had been developed at the Institute. This consists in pre-boring green shanks, seasoning the same in the open air or a hot-air chamber, then fitting 3-ply ends to the shanks. Thereafter, the product is to be conditioned for a week and then soaked in raw linseed oil. By this process, the life of bobbins would increase by 50 per cent.

9. The Annual Statement of the Sea-borne Trade records only the **Imports.** total value of all the bobbins (including bobbin ends) imported into the country. It does not record the quantities or numbers of imported bobbins. We had a discussion on the question with the representatives of the importers, manufacturers and consumers present at the public inquiry and it was estimated that in the prewar period imports of cotton mill bobbins were about 3,00,000 gross. It was also estimated that imports of jute mill bobbins were 2,300 tons in weight being approximately equal to 55,000 complete bobbins and 20,000 bobbin ends. The main sources of imports of cotton mill bobbins in the prewar period were the U.K., Japan, China, Finland and Germany. In the postwar period, imports have been coming mostly from the U.K., Finland, Canada and Italy. It is expected that Japan and Czechoslovakia may also become sources of supply in the future. As regards jute mill bobbins, the main sources of imports in the prewar period were the U.K. and Japan, while in the postwar period, the principal source has been the U.K. A statement showing the value of imports of bobbins into British India since 1937-38 is given in Appendix VII. It may be mentioned that the value of imports of bobbins in the years 1944-45, 1945-46 and 1946-47 (11 months only) was approximately Rs. 81 lakhs, Rs. 95 lakhs and Rs. 88 lakhs respectively. Imports of cotton mill and jute mill bobbins are now subject to restrictions. No licences will

be granted for imports of bobbins from the dollar area and hard currency countries. As regards imports from Sweden, Switzerland and sterling and soft currency countries, licences will be issued subject to monetary ceilings. We were informed by the representatives of the Jute Mills Association that, for the licensing period, July-December 1948, imports of jute mill bobbins were cut down by about 63 per cent. of the total value of imports applied for. In this connection, however, the All-India Jute Mill Bobbin Manufacturers' Association, in its letter dated 23rd August 1948, represented to the Board that, there being no corresponding restriction on imports of spare parts of jute mill bobbins, large quantities of bobbin ends and spools were being imported and fitted together into complete bobbins, thereby partially defeating the purpose of the import restriction. But the Bobbin Manufacturers' Association could not furnish any facts or figures in support of this representation. We recommend that Government should inquire into this matter and that, if the complaint is found to be justified, the present restriction on imports of jute mill bobbins should be extended to cover imports of spare parts of such bobbins as well. In order that the extent of competition between imports and indigenous bobbins may be correctly assessed, we recommend that the Annual Statement of the Sea-borne Trade should also record separately the numbers of (i) jute mill bobbins and parts, (ii) cotton mill bobbins, and (iii) other types of bobbins, such as, those required for woollen, silk and rayon mills.

10. (a) *Jute mill bobbins.*—The Indian Jute Mills Association, in Demand its memorandum dated 22nd June 1948, has

given two estimates of annual demand, one based upon the assumption that indigenous bobbins alone would be used and the other on the assumption that imported bobbins alone would be used. The figures in the two cases are 78,500 gross (indigenous) and 41,600 gross (imported) respectively. These figures do not include bobbin ends. The manufacturers of jute mill bobbins, however, disputed the correctness of these two sets of figures, as they were unable to accept the opinion of the Jute Mills Association regarding the comparative durability of the two kinds of bobbins and also the proportion of indigenous and imported bobbins actually used by the jute mill industry during wartime. Another estimate has been given by the Priority Assistance Advisory Panel for the jute industry. This is based upon figures supplied by the jute mills themselves for the year 1944. The estimate is as follows:—

Rov bobbins .....	..	10,000 gross.
Spinning bobbins .....	..	40,000 gross.
'bin ends .....	..	25,000 gross.
	Total	75,000 gross.

The Board accepted this figure of 75,000 gross as being the estimated annual demand for jute mill bobbins in the country.

(b) *Cotton mill bobbins.*—No adequate statistics regarding the consumption of cotton mill bobbins in the prewar period were available. The representatives of the importers, bobbin manufacturers and the cotton mill industry, however, discussed the matter at the public inquiry and suggested that 300,000 gross might be taken as the estimated demand per annum for cotton mill bobbins in the prewar period. According to figures furnished by the Textile Commissioner's Office, the total consumption of imported and indigenous bobbins came to about 423,000 gross in the year 1947. On the basis of the discussion with the representatives of the bobbin manufacturers and the cotton mill industry, it was estimated that the demand for cotton mill bobbins in the next three years would be about 450,000 gross per annum.

(c) *Silk, rayon and woollen mill bobbins.*—As a result of discussion with the representatives of the manufacturers and consumers of bobbins, it was estimated that the demand for silk and rayon mill bobbins would be about 5 per cent. and that for woollen mill bobbins about 2 per cent. of the number of bobbins required for the cotton mill industry.

11. (i) *Jute mill bobbins.*—As stated in paragraph 4(a), the total capacity of 21 jute factories for which figures Indigenous production. were available was about 73,500 gross. The maximum production was achieved by these factories in 1946-47 when their output was 39,900 gross. This would show that the indigenous production covered roughly 50 per cent. of the total consumption of jute mill bobbins in the country. The Jute Mills Association, however, informed the Board that, on account of the inferiority of the indigenous bobbins, approximately one-third of the jute mill machinery only was serviced during wartime by those bobbins, the remaining two-thirds being serviced by imported bobbins. The implication of this statement is that, though the quantity of indigenous bobbins used was equal to that of the imported bobbins, the former were only half as useful as the latter. The representatives of the bobbin manufacturers, however, claimed that the indigenous industry possessed adequate capacity to supply the full requirements of bobbins in the country and that, if only the jute mill industry adopted a more sympathetic purchase policy regarding indigenous bobbins, production of bobbins in the country could be expanded up to full potential capacity so as to meet the entire demand for them in the country.

(ii) *Cotton mill bobbins.*—As stated in paragraph 4(b), the capacity of 47 factories for which figures were available was over 415,000 gross per annum. The indigenous production was at its maximum in 1947 and the figure of output as given by the Directorate General of Industries and Supplies for that year was 282,648 gross. The imports of cotton mill bobbins in that year were 140,265 gross. On the basis of these figures, it would appear that in 1947 the indigenous production supplied approximately two-thirds of the requirements of bobbins in the country, the remaining one-third being supplied by the imported bobbins. We believe that with the installation of improved machinery and the use of efficient tools and a more regular supply of timber, indigenous production can be stepped up so as to meet the entire demand for bobbins in the country.

12. (a) Representative opinion.—(i) Jute mill bobbins.—Many of the jute mills stated that the indigenous bobbins were definitely inferior to the imported ones. Thus, for instance, the Gourepore Co., Ltd., Calcutta, stated that the wood was poorly seasoned, that insufficient attention was paid to workmanship and finish, that the bobbins did not work to gauges because of variation in size, bore, shank, etc., and that 50 per cent. of the deliveries had to be rejected. The Company added that there had been some improvement in recent years but that there was room for improvement. The Hukumchand Jute Mills Ltd., Calcutta, stated that, though the home-produced bobbins were serviceable, the quality of workmanship, the nature of the timber used and its seasoning contributed largely to the inferiority of the indigenous bobbins. The Company further added that the home-produced bobbins, even of superior type, lasted about half the time as compared with the imported bobbins. The All-India Jute Mill Bobbin Manufacturers' Association, while admitting that there was still scope for improvement in the indigenous products; asserted that the bobbins manufactured by those factories which were members of the Association were in no way inferior to the imported bobbins. The Association went on to say that the jute mills, instead of buying direct from the established factories, purchased their bobbins through mill stores suppliers who, in their turn, procured the cheapest types of bobbins without any regard for quality. The result of this, in the opinion of the Association, was that the jute mills had developed a prejudice even against bobbins manufactured by the well-established factories. To remedy this difficulty, the Association suggested that the mills should place advance orders direct with the established bobbin factories so that the factories concerned might have sufficient time to procure the right type of timber and to season it properly so as to make quality bobbins. The Directorate General, Industries and Supplies, Government of India, stated that many of the factories did not always get the right type of timber and that most of them had no facilities for properly seasoning the timber.

(ii) Cotton mill bobbins.—Most of the cotton mills stated that the quality of the indigenous bobbins was definitely inferior to the imported ones. Thus, for instance, the Buckingham and Carnatic Mills Co. Ltd., Madras, stated that the quality of Indian-made bobbins varied considerably and that the turning, boring and balancing of the bobbins was done inefficiently as compared with the imported bobbins. The Madura Mills Co. Ltd., Madura, stated that the indigenous bobbins did not compare favourably with the imported bobbins on account of inferior workmanship and finish and great variations in fittings. The representatives of the bobbin manufacturers, however, claimed that good quality bobbins were manufactured by those factories which had installed proper machinery and could secure the right type of timber. They also pointed out that there were a number of small factories which lacked proper machinery and technical skill and used inferior timber and that these factories placed inferior bobbins on the market at very low prices, thereby damaging the reputation of the indigenous bobbins. The Directorate General, Industries and Supplies, held the view that some of the Indian bobbin manufacturers were able to turn out slubbing and roving tubes which were as good as the imported ones but that the other types of indigenous bobbins did not compare favourably with the imported articles.

(b) *Board's views.*—From the evidence placed before us, we have come to the conclusion that the right type of bobbins, both for jute mills and cotton mills, are manufactured by a number of well-equipped factories using the right type of timber and the correct method of manufacture. Such factories have been receiving repeat orders and good certificates. On the other hand, there are other factories which are not well equipped and which do not take proper care in selecting and seasoning the timber or in following the correct technique of manufacture. It will, therefore, be as wrong to say that no quality bobbins are made in India as to say that all indigenous bobbins are as good as imported ones. India possesses a large variety of timber suitable for the manufacture of bobbins. The technique of manufacture is also not at all difficult. With proper care in the selection and seasoning of the timber and the use of the right type of machinery and tools, Indian factories should be able to turn out bobbins which would compare favourably with the imported article. We would, however, emphasize that the bobbins industry is still in an early stage of development : much work remains to be done in carrying out extensive tests on suitable varieties of timber and in grading them ; the methods of treatment and seasoning of the timber have to be improved ; the right type of machinery and tools have to be used ; and, last, but not the least, standard specifications have to be evolved and adhered to. So far as standard specifications are concerned, we were informed that two sub-committees had been appointed by the Indian Standards Institution to evolve standard specifications for jute mill bobbins and cotton mill bobbins respectively. We recommend that these two sub-committees should be requested to expedite their work. Pending the adoption of standard specifications, however, the existing difference of opinion between the jute and cotton mills on the one hand and the manufacturers of bobbins on the other, would continue as regards the suitability of indigenous bobbins. And so long as this difference of opinion persists, the cotton and jute mills will continue to want imported bobbins, while the indigenous bobbin manufacturers will go on complaining that they are not receiving a square deal from the jute and cotton mills. We, therefore, recommend that pending the adoption of standard specifications which may take some time, Government should appoint two timber experts, one from the Directorate General of Industries and Supplies and another from the Forest Research Institute, Dehra Dun, to carry out a rapid survey of the industry and draw up a list of factories which are suitably equipped to produce quality bobbins. Such factories may be called 'approved' factories. The list of approved bobbin factories may be enlarged gradually as more and more factories install suitable machinery and adopt the correct technique of bobbin manufacture to the satisfaction of Government experts. This will go a long way to ensuring the supply of quality bobbins to the jute and cotton mills.

13. (i) *Jute mill bobbins.*—The All-India Jute Mill Bobbin Manufacturers' Association gave the names of the following three bobbin factories for the purpose of costing:—

- (1) The Hindusthan Bobbin Factory, Calcutta,
- (2) The East India Bobbins Ltd., Calcutta, and
- (3) Bobbin Manufacturers Ltd., Calcutta.

The first one is a private partnership concern which started production in January 1947. Its capacity is stated to be 200 gross of rove bobbins and 300 gross of spinning bobbins per month. East India Bobbins is a private limited company registered in 1943. Its machinery was originally purchased in 1916 and it worked for 2½ years during the first World War. The machines were kept idle for over 20 years owing to lack of demand for indigenous bobbins. Production was re-started in 1942. The capacity of the factory is stated to be 150 gross of rove bobbins per month. Bobbin Manufacturers, is a private limited company registered in April 1947. The capacity of the factory is stated to be about 300 gross per month. This factory commenced production in July 1947 but remained closed from November 1947 to March 1948 due to labour troubles. The accounts and records of Hindusthan Bobbin Factory are kept in Hindi script and according to the Indian system. The accounts of East India Bobbins, are maintained in Bengali. Bobbin Manufacturers, keeps the accounts in English. But this company was in production only for two months in 1947 and for about two months in the period January|May 1948. None of the factories could furnish adequate production or cost data in respect of 1947, because the books could not be properly maintained on account of serious communal disturbances in that year. In these circumstances, the Cost Accounts Officer and the Technical Adviser made an attempt to build up cost estimates after a full discussion with the representatives of the three factories and of the All India Jute Mill Bobbin Manufacturers' Association. The estimates were checked up item by item with reference to the available data collected from the three factories in respect of the first five months of 1948. It may be mentioned that in building up the estimate, particular attention was paid to the cost data of Hindusthan Bobbin Factory because it had the highest production during those five months. The production of this factory during the period was 612 gross of rove bobbins, 482 gross of spinning bobbins and 1,892 gross of rove bobbin ends. It was decided to estimate the cost and fair selling price in respect of three common types of bobbins and bobbin ends manufactured by the three firms. These three types are:—

- (a) Rove bobbins 10 in. \times 5 in.
- (b) Rove bobbins ends 10 in. \times 5 in.
- (c) Spinning bobbins 4 in. \times 2-5|8 in.

Working capital was taken to be equal to four months' cost of production and interest thereon was allowed at 4 per cent. per annum. The return on fixed capital was estimated with reference to the original block of Hindusthan Bobbin Factory and was allowed at 10 per cent. per annum. For the purpose of distributing the total return on the three types of bobbins and bobbin ends, 7 spinning bobbins were taken as equivalent to 2 rove bobbins and 9 bobbin ends were taken as equivalent to 2 rove bobbins.
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The details of costs are given in the Report of the Cost Accounts Officer which is being submitted to Government as a separate enclosure to this Report. The figures of estimated cost and fair selling price are shown below:—

Estimated cost of production and fair selling price per gross of the following jute mill bobbins and bobbin ends.

	Total cost	Return on fixed Capital	Fair selling price		
			Rs.	Rs.	A. P.
(a) Rove bobbins 10" x 5"	..	179.19	1.60	180.79 or 180.12	0
(b) Ends for rove bobbins 10" x 5"	..	41.80	0.36	42.16 or 42.3	0
(c) Spinning bobbins 4" x 2-5/8"	..	49.48	0.46	49.94 or 49.15	0

(ii) *Cotton mill bobbins.*—The Cost Accounts Officer, with the help of the Technical Adviser, investigated the cost of production of bobbins at the following four factories:—

- (1) Metro Wood Works Ltd., Kalol (Baroda).
- (2) Bharat Bobbins Ltd., Ahmedabad.
- (3) Pembroke Industries Ltd., Bhavnagar.
- (4) Mahalakshmi Industries, Bhavnagar.

An estimate of cost was prepared in respect of eight types of bobbins, namely:—

(a) Ring weft pirns 5 in.	(e) Wadia pirns.
(b) Ring weft pirns 6 in.	(f) Universal pirns.
(c) Ring rabbeth 5 in.	(g) Slubbing tubes, and
(d) Ring rabbeth 6 in.	(h) Roving tubes.

(1) Metro Wood Works Ltd., is a private limited company registered in 1942 in Baroda State. The factory is located on an extensive site at Kalol near Ahmedabad and commenced production in 1942. Its output was about 1,600 gross per month during 1947 but went up to 2,000 gross per month in the first four months of 1948. The Company expects to produce 2,500 gross per month in the latter part of 1948 (i.e., 30,000 gross per annum consisting of 6,000 gross of roving and slubbing tubes and 24,000 gross of all other items). The Company maintains its accounts in Gujarati and closes them in December each year. During the year 1947, the accounts of the Company were mixed up with those of a Branch Office at Bhavnagar; but since the beginning of 1948, the Company is maintaining separate and systematic cost records. In 1947, the Company used both local timber (Haldu) and imported Canadian timber (Birch), but in the

present year it has been exclusively using imported Canadian birch. In view of what has been said above, the costs were examined in respect of the first four months of 1948 for the various types selected. This was done separately for varnished and enamelled items. On the basis of the actual cost of production during those four months, an estimate of cost of production and fair selling price was built up for the year 1948-49. This Company's factory is of economic size and it was able to produce detailed cost records for the several types of bobbins manufactured. It may be mentioned that for the purpose of the cost estimate, the cost of Canadian birch was taken. This factory produces weft pirns 5 in. and 6 in., ring rabbeth 5 in. and 6 in., Wadia pirns 6 in., Universal pirns 6 in.-7 in., Slubbing tubes 10 in. and Roving tubes 7 in. The first five types of bobbins are either enamelled or varnished according to the trade demand, while the last three types of bobbins are varnished. (2) Bharat Bobbins, is a private limited company registered in 1942. The factory is situated in Ahmedabad town and commenced production in 1942. The Company maintains its accounts in Gujarati and closes them at the end of March every year. During the year ended March 1948, the Company manufactured weft pirns 5 in. and 6 in. and ring rabbeths 5 in. and 6 in., mostly of the enamelled type and its total production was 9,410 gross. During this period the Company was using mostly birch wood imported from Canada in the shape of scantlings. The Company's production is expected to be 18,000 gross during the year ending March 1949. Cos's of production at this factory during the year ended March 1948 were examined and an estimate of cost was built up for the year ending March 1948. The cost of production at this factory was found to be slightly lower than that at Metro Wood Works. (3) Pembroke Industries, Bhavnagar, is a private limited Company registered in 1945, and its factory is rather small. Its estimated production is only about 230 gross per month consisting of several types. During the year 1947, the Company was using only Haldu but recently it has begun to use Canadian birch purchased locally from another importer. The accounts are kept in Gujarati and are closed at the end of December every year. On the basis of the actual cost data for the year 1947, estimate of cost was built up for the year 1948. Its estimated cost of production was found to be approximately the same as that of Metro Wood Works. (4) Mahalakshmi Industries, Bhavnagar is a private proprietary concern started in 1942. The factory is located in temporary buildings on an extensive site with sufficient scope for expansion. The Company, being a private proprietary concern, does not maintain systematic accounts. The main record is a cash book kept according to the Indian system in Gujarati, and no ledgers or stock registers are maintained. Its costs were rather low (mainly due to cheap labour at Bhavnagar) and its accounts were not in a satisfactory

state. On the basis of cost data for January|April, 1948, an estimate of cost was built up for the year 1948-49. In estimating the cost of production and fair selling price of bobbins for the four factories, the cost of imported timber was taken into account. We have, however, examined the comparative prices of imported and indigenous timbers and found that the use of indigenous timber will not raise the cost of production. Working capital was taken as equivalent to four months' cost of production and interest thereon was allowed at 4 per cent. per annum. Return was allowed at 10 per cent. on the gross block. The details of costs of production of different types of bobbins at these four factories are given in the Report of the Cost Accounts Officer, which is separately submitted to Government as a confidential enclosure to this Report. After considering the productive capacity, general efficiency and the state of accounts of these four factories, the Board decided to take Metro Wood Works as a representative factory for the purpose of comparing the fair selling prices of bobbins in this country with the landed costs of imported bobbins. It may, however, be mentioned that the estimated cost of production at Metro Wood Works is almost the same as that at Bharat Bobbins Factory and Pembroke Industries. As already mentioned, the cost of production at Mahalakshmi Industries was particularly low and its accounts were not satisfactory. Consequently, the estimate of cost of production for this factory was not taken into consideration. The estimated costs of production and fair selling prices of bobbins, as based on the cost of production at Metro Wood Works Ltd., are as follows:—

Estimated cost and fair selling price per gross of bobbins for the year 1948-49.

I—*Varnished bobbins.*

	Cost of Production.	Return on fixed capital.	Fair selling price.	
			Rs.	Rs. A. P.
(a) Ring weft pirns 5"	21.72	0.78	22.50 or 22 8 0
(b) Ring weft pirns 6"	22.22	0.78	23.00 or 23 0 0
(c) Ring rabbeth 5"	25.24	0.78	26.02 or 26 0 0
(d) Ring rabbeth 6"	26.10	0.78	26.88 or 26 14 0
(e) Wadia pirns 6"	29.85	0.78	30.63 or 30 10 0
(f) Universal pirns 6"-7"	27.25	0.78	28.03 or 28 0 0
(g) Slubbing tubes 10"	82.80	0.82	83.62 or 83 10 0
(h) Roving tubes 7"	61.70	0.82	62.52 or 62 8 0

II—Enamelled bobbins.

		Cost of Production.	Return on fixed capital.	Fair selling price.
		Rs.	Rs.	Rs. A. P.
(a)	Ring weft pirns 5"	26·11	0·78	26·89 or 26 14 0
(b)	Ring weft pirns 6"	26·62	0·78	27·40 or 27 6 0
(c)	Ring rabbeth 5"	30·41	0·78	31·19 or 31 3 0
(d)	Ring rabbeth 6"	31·26	0·78	32·04 or 32 1 0
(e)	Universal pirns 6"—7"	34·97	0·78	35·75 or 35 12 0

14. Bobbins and pirns are included under item 72(1) of the First Schedule to the Indian Tariff Act XXXII of Existing rate of duty. 1934 as in operation on 1st January, 1948. The relevant extract from the Indian Customs Tariff (28th Issue) is given below:—

Item No.	Name of article.	Nature of duty.	Standard rate	Preferential rate if the article is the produce or manufacture of		
				The U.K.	A British colony.	Burma.
72(1)	The following textile machinery and apparatus by whatever power operated, namely, healds, heald cords and heald knitting needles, reeds and shuttles, warp and weft preparing machinery and looms and bobbins and pirns.	Revenue	10% ad valorem			Free

15. A statement showing the recent c.i.f. prices and landed costs of jute mill bobbins and cotton mill bobbins is given in Appendix VIII. While the quotations given by certain leading importing firms were found to be approximately equal, those given by a number of other firms were either too high or too low. Some of the figures furnished by the Collector of Customs, Calcutta, were also found to be particularly low. The figures of c.i.f. prices furnished by the importers and others were discussed with the representatives of the producers, consumers and importers of bobbins, who were present at the inquiry. It was agreed that the quotations given by the Scottish Bobbin and Shuttle Manufacturers' Association should be adopted in respect of jute mill bobbins and those given by Wilson Brothers in respect of cotton mill bobbins. Wilson Brothers could not, however, give any quotations for two types of cotton mill bobbins; in these cases, the quotations given by Gannon Dunkerley and Co., were agreed to. The c.i.f. prices and landed costs of the different types of bobbins are stated below:—

	C.i.f. price.	Customs duty at 10%.	Clearing charges.	Landed cost.
(i) <i>Jute mill bobbins</i> —	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
(a) Rovo bobbins 10"×5"	239 13 0	24 0 0	13 3 0	277 0
(b) Ends for rovo bobbins 10"×5"	70 3 0	7 0 0	4 0 0	81 3 0
(c) Spinning bobbins 4"×2—5/8"	73 5 0	7 5 0	4 2 0	84 12 0
(ii) <i>Cotton mill bobbins (Varnished)</i> —	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
(a) Ring weft pirns 5"	46 12 0	4 11 0	0 8 0	51 15 0
(b) Ring weft pirns 6"	51 7 0	5 2 0	0 8 0	57 1 0
(c) Ring rabbeth 5"	39 12 0	4 0 0	0 7 0	44 8 0
*(d) Ring rabbeth 6"	42 1 0	4 3 0	0 7 0	46 11 0
(e) Wadia pirns 6—7/16"	47 15 0	4 13 0	0 8 0	53 4 0
(f) Universal pirns 7"	58 1 0	5 8 0	0 9 0	61 2 0
(g) Slubbing tubes 10"	141 3 0	14 2 0	1 7 0	156 12 0
(h) Roving tubes 7"	88 9 0	8 14 0	0 14 0	98 5 0
Enamelled				
(a) Ring weft pirns 5"	59 10 0	6 0 0	0 10 0	66 4 0
(b) Ring weft pirns 6"	64 5 0	6 7 0	0 11 0	71 7 0
(c) Ring rabbeth 5"	52 10 0	5 4 0	0 9 0	58 7 0
*(d) Ring rabbeth 6"	54 15 0	5 8 0	0 9 0	61 0 0
(e) Wadia pirns 6—7/16"	60 13 0	6 1 0	0 10 0	67 8 0

16. A comparative statement of the estimated fair selling prices of indigenous bobbins and the landed costs of imported bobbins is given below:

Comparison of fair selling prices with landed costs of bobbins.

1	2	Landed cost (inclusive of 10% duty)	Estimated fair selling price.	Excess of column 2 over column 3.
		Rs. a. p.	Rs. a. p.	Rs. a. p.
(i) Jute mill bobbins—				
(a) Rove bobbins $10'' \times 5''$..	277 0 0	180 12 0	96 4
(b) Ends for rove bobbins $10'' \times 5''$..	81 3 0	42 3 0	39 0
(c) Spinning bobbins $4'' \times 2 - 5/8''$..	84 12 0	49 15 0	54 12 0
(ii) Cotton mill bobbins—(Varnished)—				
(a) Ring weft bobbins 5"	..	51 15 0	22 8 0	29 7 0
(b) Ring weft bobbins 6"	..	57 1 0	25 0 0	3 1 0
(c) Ring rabbeth 5"	..	44 3 0	26 0 0	18 3 0
(d) Ring rabbeth 6"	..	46 11 0	26 14 0	19 13 0
(e) Wadia pirns 6—7/16"	..	53 4 0	30 12 0	22 8 0
(f) Universal pirns 7"	..	61 2 0	28 0 0	33 2 0
(g) Slubbing tubes 10"	..	156 12 0	83 10 0	73 2 0
(h) Roving tubes 7"	..	98 5 0	62 8 0	35 13 0
(Enamelled)—				
(a) Ring weft bobbins 5"	..	66 4 0	25 14 0	39 6 0
(b) Ring weft bobbins 6"	..	71 7 0	27 6 0	44 1 0
(c) Ring rabbeth 5"	..	58 7 0	31 3 0	27 4 0
(d) Ring rabbeth 6"	..	61 0 0	32 1 0	28 15 0
(e) Wadia pirns 6—7/16"	..	67 8 0	35 12 0	31 12 0

It will be found that in every case the landed cost (inclusive of 10 per cent. import duty) of imports is appreciably higher than the fair selling prices of indigenous bobbins. Even if the duty were removed, the landed cost of imports would be definitely higher than the fair selling price of Indian-made bobbins.

17. The comparative statement given in the preceding paragraph would show that the fair selling prices of indigenous bobbins are appreciably lower than the landed costs of the imported ones. The indigenous bobbins have, therefore, an advantage over the imported ones in respect of the prices factor and do not require the support of a protective import duty. In spite of the cheapness of the indigenous bobbins, however, jute and cotton mills in the country show a definite preference for the imported bobbins, the main reason being that the quality of the indigenous bobbins to some extent is still inferior to that of the imported ones. But some of the bobbin factories in the country can and do produce quality bobbins which are nearly as good as the imported ones. We have no doubt that the bobbins industry as a whole can achieve a higher standard of production, provided the factories are equipped with up-to-date machinery and tools and supplied with the right quality of timber. As the bobbins industry produces an essential accessory for two of the major industries in the country, namely, jute mill and cotton mill industries, it is desirable that Government should offer direct assistance to the bobbins industry, particularly by way of technical guidance and supervision and facilities for the supply of the right type of timber. It will, however, take some time before the industry is placed upon a stable basis so as to be able to compete with imported bobbins on an equal footing. In the meantime, therefore, some indirect protection will be necessary for the industry. We recommend that, so long as the licensing of imports of bobbins is continued for balance of payment considerations, the desirability of maintaining and expanding the indigenous production should be kept in view and the quantum of imports should be regulated accordingly. We must also emphasise that the jute mill and cotton mill industries, which occupy such an important place in the economy of the country, have a duty to encourage in the development of an accessory industry like bobbins, and we recommend that these two industries should buy their requirements of bobbins, as far as available, from "approved" factories, as defined in paragraph 12(b).

18. Our conclusions and recommendations are summarised as
Summary of conclusions under:—
and recommendations.

- (i) The development of the bobbins industry was largely due to the stimulus imparted by the last war. (Paragraph 4).
- (ii) Most of the units in the industry require to be equipped with modern machinery and tools. We recommend that they should take early steps in this direction. We also recommend that Government should give them facilities to import such machinery and tools. (Paragraph 5).
- (iii) Haldu, kalam and mango are the three main types of indigenous timber that are used for the manufacture of bobbins. But for transport difficulty, regular supply of these three kinds of timber should, as a rule, be available to the industry. We recommend that the present facilities for the supply of these three types of timber to the bobbin manufacturers should be enlarged. There are certain other kinds of timber, such as, baurang, white cedar, rosewood, walnut, maple, alder, bahera and champ, which might also be

suitable for the purpose. We recommend that Government should arrange to have adequate tests carried out regarding the suitability of different kinds of timber for the manufacture of bobbins and secure the co-operation of textile mills for this purpose. We further recommend that so long as import restrictions on timber continue for balance of payments considerations, imports of foreign timber for the manufacture of bobbins should be permitted only to the extent necessary to supplement the supply of indigenous timber and that all applications for permits to import timber for this purpose should be scrutinised before such permits are issued. [Paragraph 7(a).]

(iv) There is no great difficulty regarding the supply of terneplate, tinplate, copper sheet or brass sheet, enamel and varnishes, linseed oil, spindle oil or similar other oil, required for the industry. [Paragraph 7(b), (c) and (d).]

(v) The value of imports of bobbins in the years 1944-45, 1945-46 and 1946-47 (11 months only) was approximately Rs. 81 lakhs, Rs. 95 lakhs and Rs. 83 lakhs respectively. Imports of cotton mill and jute mill bobbins are now subject to restrictions. We recommend that these restrictions should cover spare parts of jute mill bobbins as well. (Paragraph 9).

(vi) The Annual Statement of the Sea-borne Trade should record separately the numbers of (i) jute mill bobbins and parts, (ii) cotton mill bobbins and parts, and (iii) bobbins required for woollen, silk and rayon mills. (Paragraph 9).

(vii) The estimated demand for jute mill bobbins is 75,000 gross per annum and that for cotton mill bobbins 450,000 gross per annum. (Paragraph 10).

(viii) The maximum production of jute mill bobbins took place in 1946-47 when the output was 39,900 gross, which covered about half the total consumption of jute mill bobbins in the country. But the industry has ample capacity to meet the entire demand for jute mill bobbins in the country. [Paragraphs 4(a) and 11(i).]

(ix) The maximum production of cotton mill bobbins took place in 1947, when the output was 282,648 gross. The total capacity of 47 factories has been estimated at 415,000 gross per annum. Besides, there are a few other factories for which details are not available. With the installation of improved machinery and use of efficient tools and a more regular supply of timber, indigenous production can be stepped up considerably so as to meet the entire demand in the country. [Paragraphs 4(b) and 11(ii).]

(x) With proper care in the selection and seasoning of the timber and the use of the right type of machinery and tools, our factories can turn out bobbins which will compare favourably with the imported ones. We recommend that the two sub-committees recently appointed by the Indian Standards Institution to evolve standard specifications for jute mill bobbins and cotton mill bobbins respectively, should be requested to expedite their work. [Paragraph 12(b).]

- (xi) Pending the adoption of standard specifications, Government should appoint two timber experts, one from the Directorate General of Industries and Supplies and another from the Forest Research Institute, Dehra Dun, to carry out a rapid survey of the industry and draw up a list of factories which are suitably equipped to produce quality bobbins. Such factories may be called "approved" factories. [Paragraph 12(b).]
- (xii) The estimated fair selling prices of indigenous bobbins are appreciably lower than the landed costs of the imported ones. (Paragraph 16).
- (xiii) The indigenous bobbins industry, therefore, does not require protection by means of import duty. (Paragraph 17).
- (xiv) The industry is, however, not yet established on a strong basis and cannot compete with the imported bobbins on equal terms. Government should offer direct assistance to the industry, particularly by way of technical guidance and supervision and facilities for the supply of the right type of timber. We also recommend that, so long as the licensing of imports of bobbins is continued for balance of payments considerations, the desirability of maintaining and expanding the indigenous production of the article should be kept in view and the quantum of imports should be regulated accordingly. (Paragraph 17).
- (xv) The jute and cotton mill industries, which occupy an important place in the economy of the country, have a duty to encourage the development of an accessory industry, like bobbins. Those two industries should buy their requirements of bobbins, as far as available, from "approved" factories. (Paragraph 17).

19. The Board wishes to thank Mr. T. K. Mirchandani, Conservator of Acknowledgments. Forests, Bombay, Mr. M. P. Kanga, Director of Industries, Bombay, Mr. D. E. Cooper, Director of Raw Materials and Stores, Textile Commissioner's Office, Mr. C. Purkayastha, Development Officer (Timber), Directorate General, Industries and Supplies, Mr. J. G. Kumaramangalam, Deputy Director, Directorate General, Industries and Supplies, Mr. M. A. Rehman, Wood Seasoning Officer, Forest Research Institute, Dehra Dun, and Mr. P. V. R Rao, Cost Accounts Officer, for helping the Board in connection with the inquiry.

G. L. MEHTA, *President.*

H. L. DEY, *Member.*

B. V. NARAYANASWAMY, *Member.*

M. AHMADULLAH, *Secretary.*

BOMBAY:

15th November 1948.

APPENDIX I.

GOVERNMENT OF INDIA.

DEPARTMENT OF COMMERCE.

New Delhi, the 26th April 1947.

RESOLUTION.

TARIFFS.

No. 218-T(43)147.—In pursuance of paragraphs 2 and 7 of their Resolution in the Department of Commerce No. 218-T(55)145, dated the 3rd November 1945, and paragraph 4 of their Resolution bearing the same number dated the 16th February 1946, the Government of India have decided to refer to the Tariff Board for investigation applications for assistance or protection received from the following industries :—

- (i) Expanded Metal, and
- (ii) Bobbins.

2. In conducting the enquiries, the Board will be guided by the principles laid down in paragraph 5 of the Resolution, dated the 3rd November 1945, referred to in paragraph 1 above.

3. Firms or persons interested in either of these industries or in industries dependent on the use of these articles, who desire that their views should be considered by the Tariff Board, should address their representations to the Secretary to the Board, Contractor Building, Ballard Estate, Nicol Road, Bombay 1.

ORDER

Ordered that a copy of this Resolution be communicated to all Provincial Governments, all Chief Commissioners, etc., etc.

Ordered that a copy be communicated to the Government of Burma.

Ordered also that it be published in the Gazette of India.

Y. N. SUKTHANKAR,

Secretary to the Government of India.

APPENDIX II.

List of producers, importers, consumers and associations to whom Board's questionnaire was issued.

PRODUCERS :

- *Those who replied the questionnaire.
- **Those who sent rated capacity form only.
- ***Those who had stopped production and were not replying to the questionnaire.

- *1. All-India Bobbin Manufacturers' Association, 1st Pasta Lane, Colaba, Bombay.
- 2. Ambica Vijay Bobbin Factory, Chira Bazar, Sankarbari Lane, Bombay.
- **3. Arun Bobbin Factory, Siyagange, Indore (C.I.).
- **4. Arvind Wood Works, Sutarwadi, Bhavnagar.
- 5. Ahmedabad Manufacturing & Calico Ptg. Co. Ltd., Bobbin Factory (Jubilee Mill's), Railwaypura, Post, Ahmedabad 2.
- *6. Acme Bobbin Works, 14 Hamam Street, Bombay 1.
- 7. Achson Bobbin Manufacturing Company, Mysore Bank Building, Avenue Road, Bangalore City.
- **8. Asarva Bobbin Works, Asarva Chakla, Ahmedabad.
- 9. Bangalore Bobbins & Pins Mfg. Company, Sri Krishna Rajendra Road, Fort, Bangalore City.
- **10. B. N. G. Parsee Hunnarshala, Gamadia Colony, Tardeo, Bombay.
- *11. Bharat Bobbins Limited, Grand Hotel Building, Lal Darwaja, Ahmedabad.
- 12. Bharat Bobbin Mills, Gaurakshak Bang, Bilimora.
- 13. Bharat Timber Industries, Sayani Road, Elphinstone Station, Bombay.
- 14. Bhavnagar Metal & Wood Works, Upperkot, Bhavnagar.
- *15. Bharat Industries Corporation, 88 Shambhu Halder Lane, Salkia, Howrah.
- 16. Bharat Bobbins & Wood Works, Zalim Singh Wadi, Fanas Wadi, Girgaum, Bombay.
- 17. Bharat Textiles & Sizing Company, 49 Podar Chambers, Parsee Bazar Street, Fort, Bombay.
- 18. Bilimora Bobbin Works, Somnath Road, Bilimora.
- **19. Bipin Industries, Ahmedabadi Gate, Nadiad.
- 20. B. Rich Muller & Company, Moghul Lane, Near Matunga Railway Station, Bombay.
- *21. C. M. Patel and Company, Astodia Lane, Kagdipitha, Ahmedabad.
- 22. Continental Trading Syndicate, Station Road, Baroda.
- *23. Diamond Bobbin Factory, Satyanarayan Temple, Shalipur, Ahmedabad.
- 24. Diamond Wood Works, 347 Bapty Road, Bombay 8.
- *25. Durga Wood Works, Limbdi, Kathiawar.
- 26. Eagle Bobbins, Chimodia Road, Bilimora.
- 27. Eastern Bobbin Manufacturing Company, 15, Sitafal Wadi, Mount Road, Bombay 10.
- 28. Eastern Textile Industries, Amalsad, District Surat.
- *29. Express Bobbin Works, Asramam, Quilon (Travancore State).
- 30. Eastern Manufacturers Limited, Olayil, Quilon (Travancore State).
- 31. Excelsior Bobbin Works, Quilon (Travancore State).
- *32. Ganesh Industries, Punalur (Travancore State).

33. General Industries, Outside Patram Gate, Bhiwani (East Punjab).

34. General Industrial Works, Shahi Bhuwan, Surajpole, Beawar.

35. General Mill Stores Supply Company, Diggy Street, Beawar.

36. Grand Wood Works and Saw Mills, Cannaught Cross Road, Ghorapdeo, Bombay 10.

37. Gujarat Wood Works, Suryodaya Mill Compound, Block 23-24, Tardeo, Bombay.

38. General Chemi Iron Traders, Chowri Bazar, Delhi.

39. Gopal Mills Company Limited, Mahatma Gandhi Road, Broach.

40. Harjivandas and Company, Astodia Mill Compound, Ahmedabad.

**41. Hind Bobbin Works, Kamla Nehru Road, Bulsar.

*42. Hindusthan Bobbin and Spools Mfg. Co., Maneklal Road, Navsari.

43. H. Wood Works, Bhagol Bazar, Pethapur (Via Kalol).

44. India Bobbin Factory, Navrangpura College Road, Ellis Bridge, Ahmedabad.

**45. Indian Bobbin Company Limited, Clutterbuckganj, Bareilly (U.P.).

46. International Textile Bobbin Works, Cauhar Baug, Bilmora.

**47. Indian Textile Industries, 103-104, Sir Vithaldas Chambers, 16 Apollo Street, Bombay.

**48. J. P. Bobbin Factory, Naya Bazar, Bhiwani.

*49. Jai Hind Bobbins, Bilmora.

50. Jai Hind Bobbin Works, Station Road, Bhavnagar.

**51. Jai Hind Wooden Industries, Opposite Vishnu Talkies, Kalol (North Gujarat).

**52. Jai Bharat Bobbin Factory, Fatehpur Sarkhej Road, Ellis Bridge, Ahmedabad.

53. Jaysh Bobbin Works, Kalol (North Gujarat).

54. J. J. Wood Works, Limbdi (Kathiawar).

55. J. B Thacker and Company, Khurda Road, P.O. Janti, Puri District (Orissa).

56. Krishna Bobbin Factory, Naya Bazar, Bhiwani.

57. Kharadi Mansukhlal Mohanlal, Pankore Naka, Ahmedabad.

58. Laxmi Sizing Company, Gadag.

***59. Lok-Sewa Works, P.O. Khalsa College, Amritsar.

**60. Mahendra Bobbin Factory, Kosamba (R.S.), B.B. & C.I. Railway.

61. Metro Bobbin Manufacturing Company, 452 Victoria Garden Road, Opposite J. J. Hospital, Bombay.

62. Metro Wood Works Limited, Bhavnagar.

*63. Metro Wood Works Limited, Near Seven Garnara, Kalol (North Gujarat).

**64. Mistry Bobbin Works, Chhipwad Naka, Bhailal Road, Bulsar.

*65. Modern Bobbin Works, Thakor Nivas, Chimodia Road, Bilmora.

66. Morbaba Laksman Mistry, 34 Mughbhat Lane, Bombay 4.

**67. M. Shaikh Ahmad and Sons, Near Kangari Gate, Bangalore City.

*68. Mafatlal Keshavlal Patel, 1234 Hanuman Street, Ahmedabad.

69. Mahalaxmi Bobbin Works, Uvarsad (Via Kalol).

70. Mahalaxmi Bobbin Industries, Beawar.

71. Nagindas Kilabhoi and Company, Lalgit Chambers, Tamarind Lane, Fort, Bombay.

72. New India Bobbin Works, Gaiwadi, Girgaum, Bombay 4.

73. National Dal Manufacturing Company, Jasidih, Santal Pergas (Bihar).

74. National Traders Home Limited, Surana Chambers, Sadar Bazar, Nagpur.

75. National Bobbin Works, 13-A Bruce Street, Fort, Bombay.

***76. Narialwala (Morris) & Company, Jubilee Road, Alleppy.

77. Palitana Industrial Works, Palitana.

**78. Panchal Engineering Works, Nathubhai Road, Bulsar.

79. Pankaja Mills Limited, Coimbatore.

80. Patel Bobbins Works, Yusuf Buildings, Mahatma Gandhi Road, Fort, Bombay.

81. Patel Bobbin & Eng. Works, Kamar Building, Cowasjee Patel Street, Fort, Bombay.

*82. Pembroke Industries Limited, Near Power House, Bhavnagar.

***83. Phiroz N. Motabhoi and Co. Ltd., Motabhoi Building, 146 Medows Street, Fort, Bombay.

**84. Rajnikant Hirnalal and Company, Near Bechar Lashkaris Hospital, Lunsawad, Ahmedabad.

85. Ramkrishna Bobbin Works, Dariapur, Rupapari, Ahmedabad.

86. Selco Agencies Limited, 7 Rama Rao Agrahearam, Tehnur, Trichinopoly.

87. Shree Krishna Bobbin Mfg. Co. Ltd., Bul'sar.

**88. Shree Krishna Textile Works, Salapose Road, Behind G.P.O., Ahmedabad.

89. Shree Ramkrishna Wood Works, 60 Lamington Road, Bombay.

**90. Shree Sharda Bobbin Works, Near Ambaji Mata's Mandir, Hathibhai Wadi, Ahmedabad.

**91. Standard Bobbin Company Limited, Bhavani Sankar Road, Dadar, Bombay.

92. Standard Wood Works, Behind State Press, Near Prichala Street Bhavnagar.

93. Sunder Industries Limited, Station Road, Petlad.

**94. Swatantra Bobbin Works, Somnath Road, Bilimora.

95. Swastik Wood Works, Talavadi Road, Bhavnagar.

96. Shree Mahadeo Bobbin and Wood Works, Bilimora.

***97. Sarangpur Cotton Mfg. Co. Ltd., Bobbin Factory—Outside Raipur Gate, P. Box No. 19, Ahmedabad.

***98. Shree Sayajee Jubilee Cotton & Jute Mills Co. Ltd., Bobbin Factory, Sidhpur.

*99. The Techno Mechanical Industries Limited, Maneklal Road, Navsari.

**100. The Mahalaxmi Bobbin Mfg. Co. Ltd., 5 Ali Chambers, Tamarind Lane, Fort, Bombay.

**101. The Mahalaxmi Industries, Lati Bazar, Bhavnagar.

102. Technological Institute of Textiles, Bhiwani.

**103. Textile Wood and Engineering Works, Ghorupdeo Cross Road, Bombay 10.

104. United Bobbin Works, Thakurdwar, Jitekar's Wadi, Bombay 4.

**105. Universal Textile Bobbin Company, Madhada (Kathiawar).

**106. Victory Wood Works, Near Ritz Hotel, Khanpur, Ahmedabad.

*107. Vishvakarma Bobbin Factory, Suratwadi, Station Road, Bhavnagar.

*108. Vithaldas Makani and Sons, Opposite Railway Goods Yard, Navsari.

109. Vishnu Bobbin Factory, Talawadi Road, Bhavnagar.

**110. West End Works, Vada (District Thana).

*111. Wood and Chemica's Limited, Outside Saranpur Gate, Post Railway-pura, Ahmedabad.

**112. Zenith Textile Wood Works, Partap Nagar, Makakhad (Via Esalj).

(B) NAMES OF PRODUCERS OF JUTE MILL BOBBIN

- *1. All Bengal Bobbin Manufacturers' Association, c/o. Indian Chamber of Commerce, 102-A Netaji Subhas Road, Calcutta.
- 2. Arindah Bobbin Factory, 86-B Netaji Subhas Road, Room No. 61, Calcutta.
- 3. Associated Timber Products Limited, Stephen House, Dalhousie Square, Calcutta.
- *4. Bobbin Manufacturers Limited, 191, Chittaranjan Avenue, North Road, Fort, Bombay.
- *5. Bobbin Manufacturers Syndicate, Ultadanga Canal Road, Calcutta.
- *6. B. K. Desai and Company, 40 Tangra Road, Calcutta.
- 7. Bobbin Manufacturing Company, 13-C Lower Chitpore Road, Calcutta.
- 8. Bengal Bobbin and Plywood Company Limited, 44-46 Canning Street, Calcutta.
- 9. Benayak Wood Works, P.O. Khardah Bazar, 24 Parganas, Calcutta.
- *10. Datta Roy and Company, 14/2 Old China Bazar Street, Calcutta.
- **11. Durga Timber Works, 181-B Chittaranjan Avenue, Calcutta.
- *12. Dey Wood, Iron and Steel Works, 36, Strand Road, Calcutta.
- *13. East India Bobbin Limited, 9 Netaji Subhas Road, Calcutta, (Location —Bhavnagar), (Near Calcutta).
- 14. Grand Wood Works & Saw Mills, 37 Ezra Street, Calcutta.
- 15. Greenway and Company, 3 Mangoe Lane, Calcutta.
- *16. Hindusthan Bobbin Factory, 67/10 Strand Road, Calcutta.
- *17. Indian Teak Wood Products Limited, 129/7 Harrison Road, Calcutta.
- *18. Indian Bobbin Manufacturing Company, 159 Chittaranjan Avenue, Calcutta. (Renamed as Shalimar Wood Products Company, 15 Clive Row Calcutta).
- 19. Industrial Store Agency, 16 Canning Street, Calcutta.
- 20. Jai Hind Bobbin Factory, Tollygunge, Calcutta.
- 21. Kishore Timber Works, 65 Pathuriaghata Street, Calcutta.
- 22. Mercantile Corporation, 76-B Netaji Subhas Road, Calcutta.
- 23. National Industrial Works, 135 Canning Street, Calcutta.
- 24. Sanyasi Charan Chakravarthy, 4-A Netaji Subhas Road, Calcutta.
- 25. Standard Wood Works, 200 Maniktola Main Road, Calcutta.
- 26. S. N. Agarwal and Company, Toilygunge, Calcutta.
- 27. S. K. Wood Products Company, 96/2 Bahir Syra Road, Balliaghata, Calcutta.
- *28. Shree Krishna Timber Works, 6-A Jorabagan Street, Calcutta.
- 29. Tollygunge Timber Works, 180 Chittaranjan Avenue, Calcutta.
- ***30. Tay Wood Works, 137 Canning Street, Calcutta.
- 31. United Manufacturers, 50 Raja Basanta Ray Road, Calcutta.
- 32. U. S. Chowbey, Tollygunge, Calcutta.
- 33. Woorderast Products Limited, 8 Royal Exchange Place, Calcutta.
- 34. United Manufacturers, 134/1 Howrah Road, Howrah.
- 35. Imperial Bobbin Manufacturing Company, c/o. Radhasham M Limited, Ghusuri, Howrah.
- 36. Girdharlal and Company, Shahpur, Tollygunge, Calcutta.

37. Tollygunge Bobbin Factory, 12 Basantlal Sha Road, Tollygunge, Calcutta.
38. Tollygunge Wood Works, 12 Basantlal Sha Road, Tollygunge, Calcutta.
39. Modern Bobbin Factory, 72 Sura 1st Lane, Beliaghata, Calcutta.
40. N. K. Som and Company, 1 Chittaranjan Avenue, Calcutta.
41. Dominion Bobbin Works, 55/7 Sasthitala Road, Narkaldanga, Calcutta.

IMPORTERS :

- *Those who replied to Board's questionnaire.
- **Those who only furnished figures of c.i.f. prices.

(A) IMPORTERS OF COTTON MILL BOBBINS :

- **1. A. Sheth and Company, Opposite Baroda College, Baroda.
- **2. Greaves Cotton and Company, 1 Forbes Street, Bombay 1.
- **3. Gannon & Dunkerley & Company, Limited, Chartered Bank Building, Fort, Bombay.
- **4. Jones Textilates Export Company Limited, Jeroo Building, Esplanade Road, Fort, Bombay.
- **5. Ormerods (India) Limited, Bank of Baroda Building, Apollo Street, Fort, Bombay.
- **6. Wilson Brothers Bobbin Company Limited, 139 Medows Street, Fort, Bombay.
- **7. Textile Machinery & Accessories Industrial and Export Group, 444/8 The Royal Exchange, Manchester 2.
- 8. Kirk and Company (Blackburn) Limited, Merchants, Shapur House, Cowasjee Patel Street, Bombay.
- 9. Consolidated Mill Supplies Limited, Co-operative Insurance Building, Sir P. M. Road, Bombay.
- **10. Oriental Mill Supply Company Limited, 29-A, Ali Chambers, Dean Lane, Bombay.

(B) IMPORTERS OF JUTE MILL BOBBINS :

- **1. Don Watson and Company Limited, 19 British India Street, Calcutta.
- 2. McGregor and Balfour Limited, 11 Netaji Subhas Road, P.O. Box No. 379, Calcutta.
- 3. Morris Bates and Company, Room No. 18, 12 Dalhousie Square, Calcutta.
- 4. Robert McLeans and Company Limited, 101 Netaji Subhas Road, Calcutta (Ilaco House, Sir P. M. Road, Bombay).
- 5. S. B. Mukerjee and Company, 78/3 Netaji Subhas Road, Calcutta.
- **6. Simpson and Munro Limited, 4 Lyons Range, Calcutta.
- **7. Scottish Bobbin and Shuttle Manufacturers' Association, 136 Nethergate, Dundee, Scotland, c/o McGregor Balfour Limited, 11 Netaji Subhas Road, Calcutta.

CONSUMERS :

(*Those who replied to Board's questionnaire).

A. CONSUMERS OF COTTON MILL BOBBINS :

1. Baroda Spg. & Wvg. Co. Ltd., Pani Gate, Baroda.
- **2. Buckingham and Carnatic Company Limited, P.O. Box No. 66, Madras.
3. Calico Group Mills, Outside Dariapur Gate, Ahmedabad.
4. Delhi Cloth and General Mills Co. Ltd., Post Box No. 39, Delhi.

5. Elgin Mills Company Limited, Post Box No. 11, Kanpur.
6. Gaekwar Mills Limited, Bilmora.
7. Kalyanmal Mills, Indore (C.I.).
8. Kesoram Cotton Mills, 42 Garden Reach Road, Calcutta.
9. Khatau Makanji Spg. & Wvg. Co. Ltd., Laxmi Building, Ballard Pier, Bombay.
- *10. Madura Mills Company Limited, Madura.
11. Navjivan Mills Limited, Kalol (North Gujarat).
- *12. Pankaja Mills Limited, Coimbatore.
- *13. Rajratna Naranbhai Mills Limited, Petlad.
14. Ramchandra Spg. & Wvg. Mill, Pandalapaka, Near Biccavol Ry. Station, Coconada.
15. Sayaji Mills Co. Ltd., Baroda.
16. Savatram Rampasad Mills Company Limited, Akola (Berar).
- *17. Shree Suryanarayan Spg. & Wvg. Mill Pandalapaka, Near Biccavol Railway Station, Coconada.
18. Thackersey Moolji & Company, Sir Vithaldas Chambers, Apollo Street, Fort, Bombay.
- *19. Vidarbha Mills Berar Limited, Ellichpur.
20. Yamuna Mills Company Limited, Baroda.
- *21. Upper India Chamber of Commerce, Kanpur.
22. Commercial Mills Limited, Ahmedabad.
23. Patel Mills Company Limited, Ahmedabad.
24. Bharat Vijay Mills Limited, Kalol (North Gujarat).
25. Swadeshi Cotton Mills Limited, Serampore, Calcutta.
- *26. Rampoooria Cotton Mills Limited, Serampore, Calcutta.
27. Mohini Mills Limited, Calcutta.
- *28. Kaleeswarar Mills Limited, Coimbatore.
29. Hukamehand Mills Limited, Indore (C.I.).

(B) *CONSUMERS OF JUTE MILL BOBBINS :*

- *1. Adamjee Jute Mills Limited, Stephen House, 5 Dalhousie Square, Calcutta.
2. Andrew Yule and Company Limited, 8 Clive Row, Calcutta.
- *3. Birla Jute Manufacturing Company Limited, 8 Royal Exchange Place, Calcutta.
4. Bengal Jute Mills Limited, 8 Dalhousie Square, Calcutta.
5. Begg Dunlop and Company Limited, 2 Hare Street, Calcutta.
6. Bird and Company, Chartered Bank Building, Calcutta.
- *7. Barry and Company, 2 Fairley Place, Calcutta.
- *8. Hukumchand Jute Mills Limited, 4 Clive Ghat Street, Calcutta.
9. Hooghly Jute Mills Company Limited, 9 Garden Reach Road, Kidderpore, Calcutta.
10. Jardine Matheson Limited, 4 Clive Row, Calcutta.
11. McLeod and Company Limited, 28 Dalhousie Square, Calcutta.
12. Macmillan Mackenzie and Company, 16 Strand Road, Calcutta.
- *13. Indian Jute Mills Association, 2 Netaji Subhas Road, Calcutta.
- *14. Gourepore Company Limited, 2 Fairley Place, Calcutta.

APPENDIX III.

List of factories visited by the President, Members and other officers of the Board.

Name of the Factory.	Visited by Presi- dent, Members & Secretary.	Date.	Visited by Cost Accounts Officer and Technical Ad- viser.	Date.
1. Bobbin Factory, Navsari	Mr. C. C. Desai, CIE., ICS., Ex- Member.	26-6-47		
2. Navasari Cotton & Silk Mills, Navsari.	Do.	Do.		
3. The Hindusthan Bobbin Factory, 67/10, Strand Rd., Calcutta.	Dr. H. L. Ley	23-6-48	Mr. P. V. R. Rao and Mr. J. G. Kumar- mangalam.	23-6-48
4. Shalimar Wood Products Co., 15, Clive Row, Cal- cutta.	Do.	Do.	Do.	24-6-48
5. Bobbin Manufacturers Ltd. 6, Canal Circular Road., Calcutta.	Do.	Do.	Do.	24-6-48
6. B. K. Desai & Co. 40, Tungri Rd., Calcutta.	Do.	Do.		
7. Pembroke Industries, Bhavnagar.	President	26-3-48	Mr. P. V. R. Rao and Mr. L. E. Cooper	3-7-48
8. Acme Bobbin Works, Bombay.	President, Dr. H. L. Dey, Dr. B. V. Narayanaswamy, and Secretary.	7-7-48	Mr. P. V. R. Rao	8-6-48
9. Jai Hind Wooden Indus- tries, Kolch.			Mr. P. V. R. Rao and Mr. D. E. Cooper	18-6-48
10. Prabhat Industries Ltd., Bhavnagar.			Do.	3-7-48
11. Mahalaxmi Industries, Bhavnagar.			Do.	3-7-48
12. Sunderdas Text Mills, Bombay 10.	President, Dr. Naidu and Secre- tary.	20-8-48		

APPENDIX IV.

List of persons who attended the Public Inquiry and gave evidence.

Producers:

1. Mr. J. K. Mitter ..	.. representing	(a) East India Bobbins Ltd., 9, Netaji Subhas Road, Calcutta. (b) All-India Jute Mill Bobbins Manufacturer's Association, 4, Clive Ghat Street, Calcutta.
2. Mr. M. M. Goenka ..	.. representing	Hindusthan Bobbin Factory, 67/10 Strand Road, Calcutta.
3. Mr. B. Roy ..	.. representing	(a) Bobbin Manufacturers Ltd., 6, Canal Circular Road, Calcutta 4. (b) All-India Jute Mill Bobbins Manufacturer's Association, 4, Clive Ghat Street, Calcutta.
4. Mr. Vimalbhai N. Shah ..	.. representing	(a) Metro Wood Works, Kalol (N. Gujarat). (b) All-India Bobbin Manufacturers' Association, 1st Pasta Lane, Colaba, Bombay.
5. Mr. S. N. Cambatta ..	.. representing	(a) Bharat Bobbins Limited, Grand Hotel Building, Lal Darwaja, Ahmedabad. (b) All India Bobbin Manufacturers' Association, 1st Pasta Lane, Colaba, Bombay.
6. Mr. C. G. Patel and Mr. R. G. Patel ..	.. representing	The Mahalaxmi Industries, Lati Bazar, Bhavnagar.
7. Mr. S. N. Khaitan ..	.. representing	M/s Shalimar Wood Products Co., 15 Clive Row, Calcutta.
8. Mr. K. L. Jojodia ..	.. representing	M/s Tay Wood Works Ltd., 137 Canning Street, Calcutta.
9. Mr. S. M. Pandit ..	.. representing	Hind Bobbins Industries Ltd., Kamla Nehru Road, Balsar.
10. Mr. I. M. Pancholi ..	.. representing	Modert Bobbin Works, Thakore Nivas, Chimoda Road, Bilmora.
11. Mr. K. J. Shah and Mr. C. Dawsey ..	.. representing	Aemic Bobbin Works, 14 Hamam Street, Fort, Bombay.
12. Mr. Kasturbhai Lalbhai ..	.. representing	Asarva Bobbin Works, Asarva Road, Ahmedabad.
13. Mr. Mr. Gokulchandra Goil ..	.. representing	Mahendra Bobbin Factory, Kosamba.
14. Mr. B. L. Jain ..	.. representing	Arun Bobbin Factory, Siyaganj, Irakore.
15. Major J. L. Issa Boomgarden ..	.. representing	Bangalore Bobbin & Pitts Manufacturing Company, 4 Fairlie Place, Calcutta.
16. Mr. Bansilal G. Shah ..	.. representing	The Standard Bobbins Ltd., 119 Bhavanishankar Road, Dadar, Bombay 14.
17. Mr. H. Gumpert ..	.. representing	West End Works, Saw Millers & Wood Turners, Vada, District Thanjavur.
18. Mr. E. P. Asar ..	.. representing	Sunderdas Saw Mills, Opposite Roxy Road Station, Bombay 10.
19. Mr. C. R. Patel ..	.. representing	The Jai Hind Wooden Industries, Kalol.
20. Mr. J. R. Engineer ..	.. representing	The Textile Wood and Engineering Works, Bombay.

APPENDIX IV—*contd.*

*List of persons who attended the Public Inquiry and gave evidence—contd.
Reporters:*

1. Mr. C. J. Sharma ..	.. representing	Greaves Cotton & Co., Ltd., 1 Forbes Street, Bombay I.
2. M/s H. K. Tutton & M. A. Bharucha ..	.. representing	(a) Ormerods (India) Limited, Bank of Baroda Building, Apollo Street, Bombay. (b) Kirk and Co. (Blackburns) Ltd. Merchants' Shahpur House, Cowasji Patel St., Bombay.
3. Mr. Mohan R. Gokarn ..	.. representing	Oriental Mill Supply Co., Ltd., 29/A Alli Chambers, Dean Lane, Bombay.
4. Mr. W. A. Robinson ..	.. representing	Wilson Brothers Bobbins Co., Limited, 139 Medows St., Bombay.
5. M/s W. E. Leburn & J. L. Halmshaw ..	.. representing	Scottish Bobbin & Shuttle Manufacturers' Association, Dundee—C/o McGregor Balfour Ltd., 11 Netaji Subhas Road, Calcutta.
6. Mr. H. F. Stott ..	.. representing	M/s Jones Textilities Ltd., Bombay.

Associations:

1. Mr. Sohrab K. Khan ..	.. representing	All India Bobbin Manufacturers' Association, 1st Pasta Lane, Colaba, Bombay
2. Sri A. R. Dutta Gupta ..	.. representing	All India Jute Mill Bobbin Manufacturers' Association, 4 Clive Ghat Street, Calcutta.
3. M/s T. C. Saboo & T. W. Scroggie ..	.. representing	Indian Jute Mill Association, 2 Netaji Subhas Road, Calcutta.
4. Mr. Nandidas Haridas ..	.. representing	Ahmedabad Millowners' Association, Ahmedabad.

Officials:

1. Mr. D. E. Cooper ..	.. ..	Director, Office of the Textile Commissioner, Ballard Estate, Bombay.
2. Mr. Purkayastha ..	.. ..	Development Officer (Timber), Office of the Director General of Industries and Supplies, New Delhi.
3. Mr. M. A. Rehman ..	.. ..	Officer-in-charge, Wood Seasoning Branch, Office of the President Forest Research Institute and Colleges, P.O. New Forest (Dehra Dur).
4. Mr. M. P. Kanga ..	.. ..	Director of Industries, Bombay.
5. Mr. T. K. Mirchandani ..	.. ..	Conservator of Forests, Bombay.

APPENDIX V.

Annual production capacity of Jute Mill Bobbin Factories as given by the manufacturers.

Serial No.	Name and Address of the factory.	Capacity per annum.
1	M/S Shalimar Wood Products Co., 15, Clive Row, Calcutta.	2400 gross Rove Bobbins. 1200 gross Spg. Bobbins.
2	M/S United Manufacturers, 134/1, Howrah Road, Howrah.	3600 Gross Spg. Bobbins.
3	M/S Imperial Bobbin Mfg. Co., c/o Radhasham Mills Ltd., Chusmi, Howrah.	3600 Gross Spg. Bobbins.
4	M/S Hindusthan Bobbin Factory, 67/10, Strand Road, Nimtala, Calcutta.	2400 Gross Rove Bobbins. 3600 Gross Spg. Bobbins.
5	Sree Krishna Timber Works, 6-A, Jorabagan St., Calcutta.	1800 Gross Rove Bobbins. 2400 Gross Spg. Bobbins.
6	M/S Girdharilal and Co., Shahpur, Tollygunj, Calcutta.	7200 Gross Spg. Bobbins.
7	Tollygunj Bobbin Factory, 12, Basantlal Shah Rd., Tollygunj, Calcutta.	600 Gross Rove Bobbins or 1800 Gross Spg. Bobbins.
8	M/S Tollygunj Wood Works, 12, Basantlal Shah Road, Tollygunj, Calcutta.	4800 Gross Spg. Bobbins.
9	M/S V. S. Chowbey 1/2, Chotla Road, Tollygunj, Calcutta.	1800 Gross Rove Bobbins.
10	M/S B. K. Desai & Co., 40, Tangra Road, Calcutta	1200 Gross Rove Bobbins.
11	M/S Modern Bobbin Factory, 72, Sura 1st Lane, Beliaghata, Calcutta.	960 Gross Rove Bobbins.
12	The Indian Teak Wood Products Ltd., 129/7, Harrison Road, Calcutta.	1200 Gross Rove Bobbins. 1200 Gross Spg. Bobbins.
13	M/S Bobbin Mfrs. Ltd., 6, Canal Circular Road, Calcutta.	1800 Gross Rove Bobbins.
14	M/S East India Bobbins Ltd., 9, Netaji Subhas Road, Calcutta.	1800 Gross Rove Bobbins.
15	The Ariadah Bobbin Factory, 86-B, Netaji Subhas Road, Calcutta.	900 Gross Rove Bobbins.
16	M/S N. K. Som & Co., I Chittaranjan Avenue, Calcutta 13.	1200 Gross Rove & Spg. Bobbins.
17	M/S Dominion Bobbin Works, 55/7, Sasthitalla Road, Narkeldanga, Calcutta.	1200 Gross Rove & Spg. Bobbins.
18	M/S Bobbin Mfg. Co., 13/C Lower Chitpur Road, Calcutta.	1200 Gross Rove & Spg. Bonbins.

APPENDIX V—*contd.*

Serial No.	Name and Address of the factory.	Capacity per annum.
19	M/S Tay Wood Works, Bainra, B. N. Railway ..	18000 Gross Rove and Spg Bobbins.
20	M/S P. K. Burke & Co., Cochram Road, Scrampore (Bengal).	5100 Gross Rove & Spg Bobbins.
21	M/S Assam Saw Mills & Industries, 155-7, Sasthi-talla Road, P. O. Narkeldanga, Calcutta.	600 Gross Rove & Spg Bobbins.
22	The Laxmi Industries Ltd., 36 Strand Road, Calcutta.	96 Rove (Production.) 456 Spg. (Production.)
23	Bangalore Bobbins & Pirs Manufacturing Co., Bangalore City.	2500 Rove, Spg.

APPENDIX VI.

Annual production capacity of Cotton Mill Bobbins Factories as declared by manufacturers.

Name and address of the factory.	Annual producti capacity as declar by the factory <i>GROSS.</i>
1. Arun Bobbin Factory, Indore	18,000
2. Asarya Bobbin Works, Ahmedabad	9,490
3. Arvind Wood Works, Bhavnagar	550
4. Aeme Bobbin Works, Bombay 28	24,000
5. Bharat Bobbins Ltd., Ahmedabad	13,200
6. Bangalore Bobbins & Pirs Mfg. Co., Bangalore City ..	690
7. Bharat Industries Corporation Ltd., P.O. Salikia, Howrah	4,000
8. Bipin Industries, Nadiad	6,000
9. Behramji Nowrosji Gamadia Parsee Hunnar Shala, Bombay	7,482
10. C. M. Patel & Co., Ahmedabad	1,500
11. Diamond Bobbins Factory, Ahmedabad	2,550
12. Durga Wood Works, Limbdi (Kathiawar)	7,600
13. Express Bobbin Works, Quilon	4,800
14. Ganesh Industries, Punalur	750
15. Hindusthan Bobbin & Spools Mfg. Co., Navsari ..	13,500
16. Hind Bobbin Works, Bulsar	1,000
17. Indian Bobbin Factory, Clutterbuckganj, (Distt. Bareilly)	20,000
18. Mistry Bobbin Works, Bulsar	9,000

APPENDIX VI—*contd.*

Name and address of the factory.	Annual production capacity as declared by the factory.
	GROSS.
19. Mafatlal K. Patel, & Co., Ahmedabad ..	3,000
20. M. S. & Sons, Bobbin Factory, Bangalore City ..	1,000
21. Mahendra Bobbins Factory, Kosamba ..	16,425
22. Mahalaxmi Bobbin Mfg. Co. Ltd., 5 Alli Chamber, Tamarind Lane, Bombay ..	21,900
23. Mahalaxmi Industries, Bhavnagar ..	15,454
24. Pembroke Industries Ltd., Bhavnagar ..	8,000
25. Panchal Engineering Works, Bulsar ..	6,000
26. Patel Bobbins & Engineering Works, Bombay 10 ..	3,000
27. Rajnikant Hiralal & Co., Ahmedabad ..	5,000
28. Shree Krishna Textile Works, Ahmedabad ..	3,598
29. Swatantra Bobbin Works, Bilmora ..	1,000
30. Swastik Wood Works, Bhavnagar ..	2,375 Average.
31. Standard Bobbins Ltd., Dadar, Bombay 14 ..	9,835 Average.
32. Shree Sharda Bobbin Works, Ahmedabad ..	4,200
33. Techno Mechanical Industries Ltd., Navsari ..	Not given.
34. Textile Wood & Engineering Works, Bombay 10 ..	Not given.
35. Universal Textile Bobbin Co., Shiv Sadan, Madhada ..	Not given.
36. Vithaldas Makanji & Sons, Navsari ..	18,500
37. Victory Wood Works, Ahmedabad ..	5,200
38. Vishwakarma Bobbin Factory, Bhavnagar ..	3,600
39. Wood & Chemicals Ltd., Ahmedabad ..	12,500
40. West End Works, Vada (Thana Distt.) ..	18,000
41. Zenith Textile Wood Works, Partapnagar ..	3,600
42. Indian Textile Industries, 16, Apollo Street, Bombay ..	1,500
43. Jai Hind Wooden Industries, Kalol ..	18,000
44. J. P. Bobbin Factory, Bhivani ..	8,000
45. Jai Hind Bobbins, Bilmora ..	11,700
46. Modern Bobbin Works, Bilmora ..	6,000
47. Metro Wood Works, Kalol ..	50,840

APPENDIX VII.

Statement showing the value of imports of bobbins into British India since 1937-38.

	1937-1938	1938-1939	1939-1940	1940-1941	1941-1942	1942-1943	1943-1944	1944-1945	1945-1946	1946-1947*
VALUE OF IMPORTS FROM—	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
U. K. ..	26,39,006	18,72,299	23,54,227	28,52,353	44,33,533	53,65,119	65,32,438	76,89,419	86,81,664	76,50,246
Canada	13,720	..	..	1,17,962	..	..	..	..
Finland	37,159	30,126	..	..	..	..	..	..
Sweden	35,698	34,112	24,043	4,563	..	..	..	..	..
Germany	3,32,421	4,82,997	1,85,105	..	..	..	..	..	..
Czechoslovakia	1,040	208	..	..	..	..	..	..	..
Japan	11,29,529	13,57,506	11,31,780	16,10,356	14,07,840	..	..	..	..
U. S. A.	75	..	47,040	2,03,874	83,668	95,096	84,836	..	..
Other Countries	65,045	7,676	2,702	1,19,276	5,37,808	75,421	40	4,21,793	7,87,218
TOTAL ..	42,73,986	37,91,957	37,88,743	47,90,421	64,62,849	56,63,598	66,17,314	81,11,212	94,68,882	82,63,063

*For 11 months only—April 1946 to February 1947.

APPENDIX VIII.

C.I.F. prices and landed costs of jute mill bobbins and cotton mill bobbins.

1	C. I. F. Prices. 2	Custom Duty. 3	Clearing charges. 4	Landed Cost. 5	Name of the firm. 6
(I) JUTE MILL BOBBINS					
(a) Rove Bobbins 10" X 5"	..	239 13 0	24 0 0	13 3 0	277 0 0 Scottish Bobbin & Shuttle Mfrs. Association.
		239 13 0	24 0 0	13 3 0	277 0 0 Simpson & Munro, Calcutta.
	140 0 0	..	..	..	Collector of Customs, Calcutta.
(b) Ends for Rove Bobbins 10" X 5"	..	70 3 0	7 0 0	4 0 0	81 3 0 Scottish Bobbin & Shuttle Mfrs. Association.
	70 3 0	7 0 0	4 0 0	81 3 0 Simpson & Munro, Calcutta.	
	70 0 0	..	..	..	Collector of Customs, Calcutta.
(c) Spinning Bobbins 4" X 2 ^{1/2} "	..	73 5 0	7 5 0	4 2 0	84 12 0 Scottish Bobbins & Shuttle Mfrs. Association.
	48 0 0	..	..	..	Collector of Customs, Calcutta.
(II) COTTON MILL BOBBINS VARNISHED					
(a) Ring Weft Pins 5"	..	35 12 2	3 9 6	0 6 0	39 14 8 Jones Textilates, Bombay.
	36 13 0	3 11 0	0 6 0	40 14 0 Oriental Mill Supply Co., Ltd., Bombay.	
	51 7 0	5 2 0	0 8 0	57 1 0 Greaves Cotton & Co., Ltd., Bombay.	
	46 12 0	4 11 0	0 8 0	51 15 0 Wilson Bros, Bobbins Co., Ltd., Bombay.	
	36 0 0	3 10 0	0 8 0	40 2 0 Ormerods (India) Ltd., Bombay.	

APPENDIX VIII—*contd.*

	1	2	3	4	5	6
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
46 12 0	4 11 6	0 8 0	51 15 0	Gannon Dunkerley & Co., Ltd., Bombay.		
49 0 0	..	..	..	Collector of Customs, Madras.		
46 12 0	..	..	..	Collector of Customs, Bombay.		
33 10 0	..	..	..	Collector of Customs, Calcutta.		
(b) Ring Weft Pima G*	..	41 14 6	4 3 0	0 7 0	46 8 6	Jones Textiles, Bombay.
		47 3 0	4 11 6	0 8 0	52 6 6	Oriental Mill Supply Co., Ltd., Bombay
		61 7 0	5 2 0	0 8 0	57 1 0	Greaves Cotton & Co., Bombay.
		61 7 0	5 2 0	0 8 0	57 1 0	Wilson Bros., Bobbins Co., Ltd., Bombay.
		41 12 0	4 5 0	0 8 0	46 9 0	Ormerods (India) Ltd., Bombay
		61 7 0	5 2 0	0 8 0	57 1 0	Gannon Dunkerley & Co., Ltd., Bombay.
		51 7 0	..	..	..	Collector of Customs, Bombay.
(c) Ring Rabbeth Y*	..	39 12 0	4 0 0	0 7 0	44 3 0	Gannon Dunkerley & Co., Ltd., Bombay.
		39 12 0	4 0 0	0 7 0	44 3 0	Greaves Cotton & Co., Ltd., Bombay.
		39 12 0	4 0 0	0 7 0	44 3 0	Wilson Brothers, Bobbins Co., Ltd., Bombay.
		33 0 0	3 5 0	0 8 0	36 13 0	Ormerods (India) Ltd., Bombay.
		39 12 0	..	..	..	Collector of Customs, Bombay.
		35 4 0	..	..	..	Collector of Customs, Calcutta.

APPENDIX VIII—contd.

	1	2	3	4	5	6	
		Rs.	Rs.	Rs.	Rs.	Rs.	
(d) Ring Ratteth 6"	..	48 2 0	4 13 0	0 8 0	53 7 0	Oriental Mill Supply Co., Ltd., Bombay.	
	42 1 0	4 3 0	0 7 0	46 11 0	Gannon Dunkerley & Co., Ltd., Bombay.		
	28 11 5	2 14 0	0 5 0	31 14 5	Jones Textilaties, Bombay.		
	42 1 0	..	..	..	Collector of Customs, Bombay.		
(e) Wedie Pima 6-7/16"	..	47 15 0	4 13 0	0 8 0	53 4 0	Greaves Cotton & Co., Ltd., Bombay.	
	47 15 0	4 13 0	0 8 0	53 4 0	Wilson Brothers, Robbins Co., Ltd., Bombay.		
	51 2 0	5 2 0	0 8 0	56 12 0	Ormerods (India) Ltd., Bombay.		
	47 15 0	4 13 0	0 8 0	53 4 0	Gannon Dunkerley & Co., Ltd., Bombay.		
	47 15 0	..	..	..	Collector of Customs, Bombay.		
(f) Universal Prime 7"	..	31 5 0	3 2 0	0 5 0	34 12 0	Oriental Mill Supply Co., Ltd., Bombay.	
	65 1 0	5 8 0	0 9 0	61 2 0	Greaves Cotton & Co., Ltd., Bombay.		
	55 1 0	5 8 0	0 9 0	61 2 0	Wilson Brothers, Robbins Co., Ltd., Bombay.		
	48 8 0	4 13 7	0 8 0	53 13 7	Ormerods (India) Ltd., Bombay.		
	55 1 0	5 8 0	0 9 0	61 2 0	Gannon Dunkerley & Co., Ltd., Bombay.		
	44 11 11	4 7 7	0 8 0	49 11 6	Jones Textilaties, Bombay.		
	43 12 0	..	..	..	Collector of Customs, Madras.		
	55 1 0	..	..	..	Collector of Customs, Bombay.		
	45 0 0	..	..	..	Collector of Customs, Calcutta.		

APPENDIX VIII—*contd.*

1	2	3	4	5	6
	Rs.	Rs.	Rs.	Rs.	
(g) Slubbing Tubes 10"					
99 2 0	9 15 0	1 0 0	110 1 0	Oriental Mill Supply Co., Ltd., Bombay.	
141 3 0	19 2 0	1 7 0	156 12 0	Greaves Cotton & Co., Ltd., Bombay.	
141 3 0	19 2 0	1 7 0	156 12 0	Wilson Brothers, Bobbins Co., Ltd., Bombay.	
126 15 0	12 11 0	0 10 0	140 4 0	Ormerods (India) Ltd., Bombay.	
141 3 0	14 2 0	1 7 0	156 12 0	Gannon Dunkerley & Co., Ltd., Bombay.	
99 13 5	9 15 0	1 0 0	110 13 4	Jones Textilates, Bombay.	
141 3 0	..	..	..	Collector of Customs, Bombay.	
104 0 0	..	..	..	Collector of Customs, Calcutta.	
103 2 0	..	..	..	Collector of Customs, Madras.	
90 3 0	9 0 0	0 14 0	100 1 0	Oriental Mill Supply Co., Ltd., Bombay.	
86 9 0	8 14 0	0 14 0	98 5 0	Greaves Cotton & Co., Ltd., Bombay.	
88 9 0	8 14 0	0 14 0	98 5 0	Wilson Bros., Bobbins Co., Ltd., Bombay.	
79 10 0	7 15 0	0 6 0	87 15 0	Ormerods (India) Ltd., Bombay.	
88 9 0	8 14 0	0 14 0	98 5 0	Gannon Dunkerley & Co., Ltd., Bombay.	
78 4 10	7 13 3	0 13 0	86 15 1	Jones Textilates, Bombay.	
88 9 0	..	..	..	Collector of Customs, Bombay.	
97 12 6	..	..	..	Collector of Customs, Madras.	
84 8 0	..	..	..	Collector of Customs, Calcutta.	

APPENDIX VIII—*contd.*

	1	2	3	4	5	6
(III) ENAMELLED						
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
(a) Ring Weft Pins 5"	..	53 14 10	5 6 6	0 9 0	59 14 4	Jones Textilates, Bombay.
		64 5 0	6 7 0	0 11 0	71 7 0	Greaves Cotton & Co., Ltd., Bombay.
		59 10 0	6 0 0	0 10 0	66 4 0	Wilson Bros., Bobbins Co., Ltd., Bombay.
		59 10 0	6 0 0	0 10 0	66 4 0	Gannon, Dunkerley & Co., Ltd., Bombay.
		54 10 0	..	..	..	Collector of Customs, Calcutta.
(b) Ring Weft Pins 6"	..	64 5 0	6 7 0	0 11 0	71 7 0	Greaves Cotton & Co., Ltd., Bombay.
		64 5 0	6 7 0	0 11 0	71 7 0	Wilson Bros., Bobbins Co., Ltd., Bombay.
		60 8 0	6 0 10	0 8 0	67 0 10	Ormerods (India), Ltd., Bombay.
		64 5 0	6 7 0	0 11 0	71 7 0	Gannon, Dunkerley & Co., Ltd., Bombay.
		54 10 0	..	..	..	Collector of Customs, Calcutta.
(c) Ring Rahbeth 5"	..	52 10 0	6 4 0	0 9 0	58 7 0	Greaves Cotton Co., Ltd., Bombay.
		52 10 0	6 4 0	0 9 0	58 7 0	Wilson Bros., Bobbins Co., Ltd., Bombay.
		47 10 0	4 12 0	0 8 0	62 14 0	Ormerods (India) Ltd., Bombay.
		52 10 0	6 4 0	0 9 0	68 7 0	Gannon, Dunkerley & Co., Ltd., Bombay.
		47 9 4	4 12 0	0 8 0	62 13 0	Jones Textilates, Bombay.
		48 14 0	..	..	..	Collector of Customs, Calcutta.

APPENDIX VIII—*concl'd.*

	1	2	3	4	5	6
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
(d) Ring Rabbeth 6"	..	54 15 0	5 3 0	0 9 0	61 0 0	Gannon Dunkerley & Co., Ltd., Bombay.
		49 12 0	4 15 7	0 8 0	55 3 7	Jones Textilates, Bombay.
		49 8 0	4 15 0	0 8 0	54 15 0	Ormerods (India) Ltd., Bombay.
		80 13 0	6 1 0	0 10 0	87 8 0	Greaves Cotton Co., Ltd., Bombay.
(e) Wadia Pirna 6"
		60 13 0	6 1 0	0 10 0	67 8 0	Wilson Bros., Bobbins Co., Ltd., Bombay.
		60 13 0	6 1 0	0 10 0	67 8 0	Gannon Dunkerley & Co., Ltd., Bombay.
		56 10 0	..	..	..	Collector of Customs, Calcutta.